

# DATA SHEET

## 3 FRAME PLUNGER PUMPS

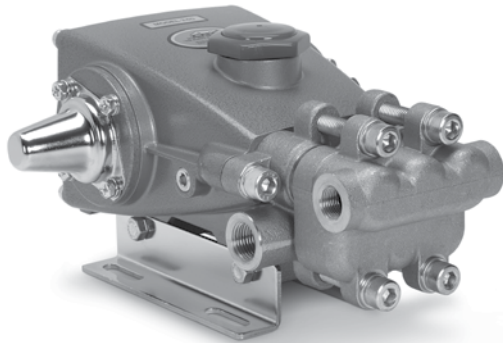


**Brass Models: 230, 240, 270**



**PIJTTERSEN**

E-mail : info@pijttersen.nl / info@catpumps.nl  
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Shaft protector and mounting rails sold separately

### FEATURES

- Triplex design delivers high efficiency and a smooth, low-pulsation flow.
- Installation flexibility with compact direct-drive or belt-drive.
- Standard NBR seals with alternative options for temperature and chemical compatibility
  - FPM – .0110
  - EPDM – .0220
  - IPFE – .0770
  - High Temp, 190°F – .3000
  - High Temp, 200°F – .3400 (Intermittent Run-Dry)

### COMMON SPECIFICATIONS

	U.S.	Metric
Bore	0.709"	18 mm
Inlet Pressure Range	Flooded to 60 psi	Flooded to 4.1 bar
Maximum Liquid Temperature	160° F	71° C
Above 130°F call Cat Pumps for inlet conditions and elastomer recommendations.		
Crankcase Capacity	15 oz.	.45 L
Inlet Ports (2)	1/2" NPT(F)	1/2" NPT(F)
Discharge Ports (2)	3/8" NPT(F)	3/8" NPT(F)
Shaft Diameter	0.650"	16.5 mm
Pulley Mounting	Either Side	Either Side
Weight	13.9 lbs.	6.3 kg
Dimensions	10.51 x 8.78 x 5.30"	267 x 223 x 134 mm

### SPECIFICATIONS

	U.S. Measure	Metric Measure
<b>230</b>		
Flow	2.3 gpm	8.7 lpm
Pressure Range	100 to 1500 psi	6.9 to 103 bar
Pump RPM*	1725 rpm	1725 rpm
Stroke	0.287"	7.3 mm
<b>240</b>		
Flow	3.6 gpm	13.6 lpm
Pressure Range	100 to 1200 psi	6.9 to 83 bar
Pump RPM*	1725 rpm	1725 rpm
Stroke	0.433"	11 mm
<b>270</b>		
Flow	3.5 gpm	13.2 lpm
Pressure Range	100 to 1500 psi	6.9 to 103 bar
Pump RPM*	1420 rpm	1420 rpm
Stroke	0.500"	12.7 mm

### ALTERNATE SPECIFICATIONS

<b>270</b>		
Flow**	4.2 gpm	15.9 lpm
Pressure Range	100 to 1000 psi	6.9 to 69 bar
Pump RPM*	1725 rpm	1725 rpm
Stroke	0.512"	13 mm

\*Pump minimum is 100 RPM.

\*\*This specification for intermittent, freshwater duty.

### ELECTRIC HORSEPOWER REQUIREMENTS

MODELS	FLOW		PRESSURE			RPM
			psi 1000	psi 1200	psi 1500	
	U.S. gpm	lpm	bar 69	bar 82	bar 103	
<b>230</b>	2.3	8.7	1.6	1.9	2.4	1725
<b>240</b>	3.5	13.6	2.5	3.0	N/A	1725
<b>270</b>	4.2	13.2	2.4	2.9	3.6	1450
<b>270 Alternate</b>	4.2	15.9	2.9	N/A	N/A	1725

**DETERMINING THE PUMP R.P.M.**

$$\frac{\text{Rated gpm}}{\text{Rated rpm}} = \frac{\text{"Desired" gpm}}{\text{"Desired" rpm}}$$

**DETERMINING THE REQUIRED H.P.**

$$\frac{\text{Hp (Electric Brake)}}{1460} = \frac{\text{gpm x psi}}{1460}$$

**DETERMINING MOTOR PULLEY SIZE**

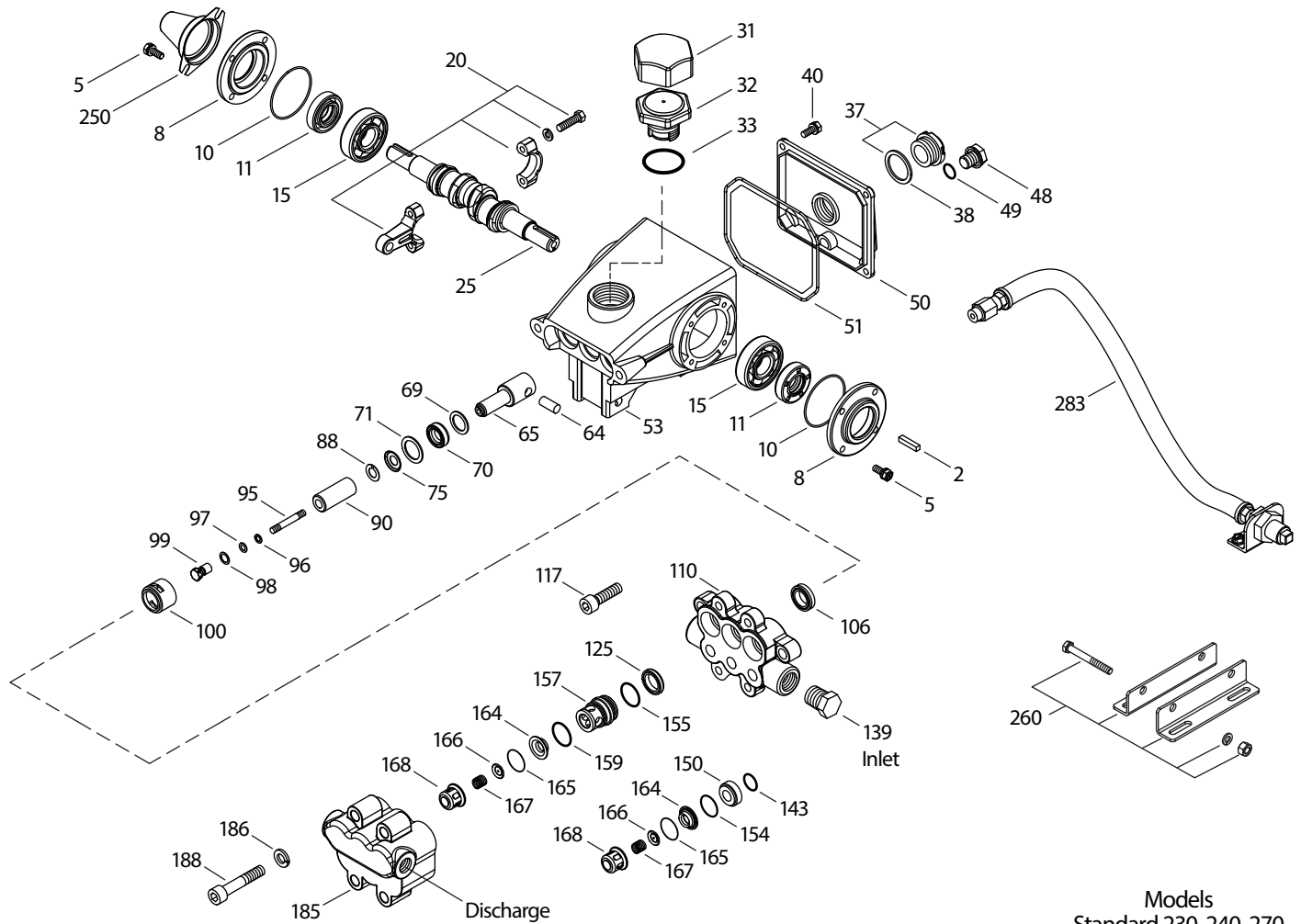
$$\frac{\text{Motor Pulley O.D.}}{\text{Pump rpm}} = \frac{\text{Pump Pulley O.D.}}{\text{Motor rpm}}$$

See complete Drive Packages [Includes: pulleys, belts, hubs, key] Tech Bulletin 003. Refer to pump **Service Manual** for repair procedure and additional technical information.

## PARTS LIST

ITEM	PART NUMBER	MATL	PART NUMBER	MATL	PART NUMBER	MATL	DESCRIPTION	QTY
	<b>230</b>		<b>240</b>		<b>270</b>			
2	30047	STL	30047	STL	30047	STL	Key (M5x5x24)	1
5	125824	STCP R	125824	STCP R	125824	STCP R	Screw, HHC Sems (M6x16)	8
8	27950	AL	27950	AL	27950	AL	Cover, Bearing	2
10	26536	NBR	26536	NBR	26536	NBR	O-Ring, Oil Seal Case - 70D	2
11	24159	NBR	24159	NBR	24159	NBR	Seal, Oil	2
15	14487	STL R	14487	STL R	14487	STL R	Bearing, Ball	2
20	48867	TNM	48867	TNM	48867	TNM	Rod, Connecting Assembly [09/02]	3
25	<b>46946</b>	FCM	<b>46951</b>	FCM	<b>108062</b>	FCM	Crankshaft, Dual End	1
31	828710	PE	828710	PE	828710	PE	Protector, Oil Cap w/Foam Gasket	1
32	43211	ABS	43211	ABS	43211	ABS	Cap, Oil Filler	1
33	14177	NBR	14177	NBR	14177	NBR	O-Ring, Oil Filler Cap - 70D	1
37	92241	—	92241	—	92241	—	Gauge, Oil, Bubble w/Gasket - 80D	1
38	44428	NBR	44428	NBR	44428	NBR	Gasket, Flat, Oil Gauge - 80D	1
40	126541	STCP R	126541	STCP R	126541	STCP R	Screw, HHC Sems (M6x20)	6
48	25625	STCP	25625	STCP	25625	STCP	Plug, Drain (1/4"x19BSP)	1
49	23170	NBR	23170	NBR	23170	NBR	O-Ring, Drain Plug - 70D	1
50	48772	AL	48772	AL	48772	AL	Cover, Rear (See Tech Bulletin 104)	1
51	48773	NBR	48773	NBR	48773	NBR	O-Ring, Rear Cover (See Tech Bulletin 104)	1
53	128354	AL	128354	AL	128354	AL	Crankcase (See Tech Bulletin 104)	1
64	16948	CM	16948	CM	16948	CM	Pin, Crosshead	3
65	45114	SSZZ	45114	SSZZ	45114	SSZZ	Rod, Plunger	3
69	126259	STCP R	126259	STCP R	126259	STCP R	Washer, Oil (M24)	3
70	25301	NBR	25301	NBR	25301	NBR	Seal, Oil - 80D	3
71	126189	STCP R	126189	STCP R	126189	STCP R	Washer, Oil Seal	3
75	43900	S	43900	S	43900	S	Slinger, Barrier	3
88	45697	S	45697	S	45697	S	Washer, Keyhole (M18x10)	3
90	43901	CC	43901	CC	43901	CC	Plunger (M18x43)	3
95	126550	STCP R	126550	STCP R	126550	STCP R	Stud, Plunger Retainer (M6x43)	3
96	43235	PTFE	43235	PTFE	43235	PTFE	Back-up-Ring, Plunger Retainer	3
97	17399	NBR	17399	NBR	17399	NBR	O-Ring, Plunger Retainer - 80D	3
	14160	FPM	14160	FPM	14160	FPM	O-Ring, Plunger Retainer - 80D	3
	◆ 46204	EPDM	◆ 46204	EPDM	◆ 46204	EPDM	O-Ring, Plunger Retainer - 70D	3
	701715	IPFE	701715	IPFE	701715	IPFE	O-Ring, Plunger Retainer	3
98	45891	CU	45891	CU	45891	CU	Gasket, Plunger Retainer (M12.5)	3
99	46504	S	46504	S	46504	S	Retainer, Plunger (M6)	3
100	28597	PVDF	28597	PVDF	28597	PVDF	Retainer, Seal	3
106	43243	NBR	43243	NBR	43243	NBR	Seal, LPS w/S-Spg	3
	44926	FPM	44926	FPM	44926	FPM	Seal, LPS w/SS-Spg	3
	◆ 46651	EPDM	◆ 46651	EPDM	◆ 46651	EPDM	Seal, LPS w/SS-Spg	3
	702390	SFTA	702390	SFTA	702390	SFTA	Seal, LPS w/SS-Spg	3
	76052	ST4	76052	ST4	76052	ST4	Seal, HPS w/S	3
	76243	ST2	76243	ST2	76243	ST2	Seal, LPS w/S-Spg	3
110	43902	BB	43902	BB	43902	BB	Manifold, Inlet	1
117	126520	STCP R	126520	STCP R	126520	STCP R	Screw, HSH Sems (M10x35)	2
125	43245	SNG	43245	SNG	43245	SNG	Seal, HPS w/S	3
	44925	FPM	44925	FPM	44925	FPM	Seal, HPS w/SS	3
	46652	HT	46652	HT	46652	HT	Seal, HPS "Hi-Temp", 2-Pc w/S-Support	3
	701382	SFTA	701382	SFTA	701382	SFTA	Seal, HPS w/SS	3
139	22179	BBCP	22179	BBCP	22179	BBCP	Plug, Inlet [1/2" NPT(M)]	1
143	17547	NBR	17547	NBR	17547	NBR	O-Ring, Inlet Valve Adapter, Rear - 85D	3
	11685	FPM	11685	FPM	11685	FPM	O-Ring, Inlet Valve Adapter, Rear - 85D	3
	◆ 46648	EPDM	◆ 46648	EPDM	◆ 46648	EPDM	O-Ring, Inlet Valve Adapter, Rear - 70D	3
	703308	IPFE	703308	IPFE	703308	IPFE	O-Ring, Inlet Valve Adapter Rear-85D	3
150	43904	BB	43904	BB	43904	BB	Adapter, Inlet Valve	3
154	43893	NBR	43893	NBR	43893	NBR	O-Ring, Inlet Valve Adapter, Front - 80D	3
	44927	FPM	44927	FPM	44927	FPM	O-Ring, Inlet Valve Adapter, Front	3
	◆ 46649	EPDM	◆ 46649	EPDM	◆ 46649	EPDM	O-Ring, Inlet Valve Adapter, Front - 80D	3
	703307	IPFE	703307	IPFE	703307	IPFE	O-Ring, Inlet Valve Adapter, Front - 80D	3
155	26089	NBR	26089	NBR	26089	NBR	O-Ring, Discharge Valve Adapter, Rear - 80D	3
	11377	FPM	11377	FPM	11377	FPM	O-Ring, Discharge Valve Adapter, Rear - 80D	3
	◆ 46647	EPDM	◆ 46647	EPDM	◆ 46647	EPDM	O-Ring, Discharge Valve Adapter, Rear - 80D	3
	703244	IPFE	703244	IPFE	703244	IPFE	O-Ring, Discharge Valve Adapter, Rear - 75D	3
157	43905	BB	43905	BB	43905	BB	Adapter, Discharge Valve	3
159	26089	NBR	26089	NBR	26089	NBR	O-Ring, Discharge Valve Adapter, Front - 80D	3
	11377	FPM	11377	FPM	11377	FPM	O-Ring, Discharge Valve Adapter, Front - 80D	3
	◆ 46647	EPDM	◆ 46647	EPDM	◆ 46647	EPDM	O-Ring, Discharge Valve Adapter, Front - 80D	3
	703244	IPFE	703244	IPFE	703244	IPFE	O-Ring, Discharge Valve Adapter, Front - 75D	3
164	44002	S	44002	S	44002	S	Seat	6
165	44001	NBR	44001	NBR	44001	NBR	O-Ring, Seat - 80D	6
	44928	FPM	44928	FPM	44928	FPM	O-Ring, Seat - 80D	6
	◆ 46650	EPDM	◆ 46650	EPDM	◆ 46650	EPDM	O-Ring, Seat - 80D	6
	703309	IPFE	703309	IPFE	703309	IPFE	O-Ring, Seat - 80D	6
166	43723	S	43723	S	43723	S	Valve	6
167	43750	S	43750	S	43750	S	Spring	6
168	43907	S	43907	S	43907	S	Retainer, Spring	6
185	43903	BB	43903	BB	43903	BB	Manifold, Discharge	1
186	126231	STCP R	126231	STCP R	126231	STCP R	Lockwasher (M10)	4

# EXPLODED VIEW



Models  
Standard 230, 240, 270  
November 2016

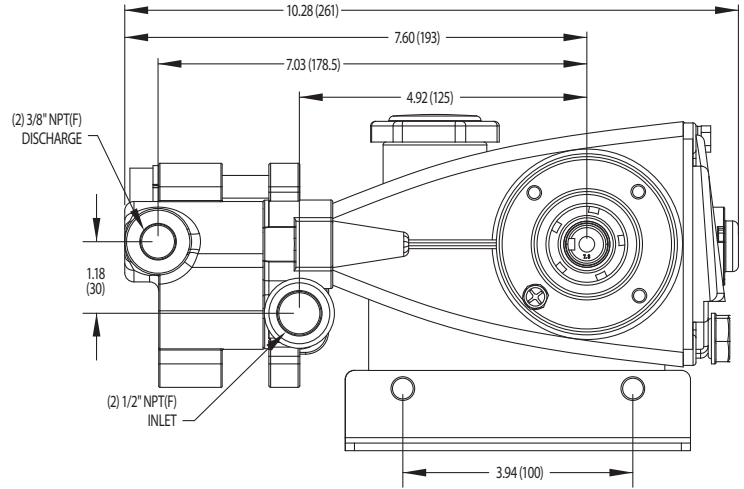
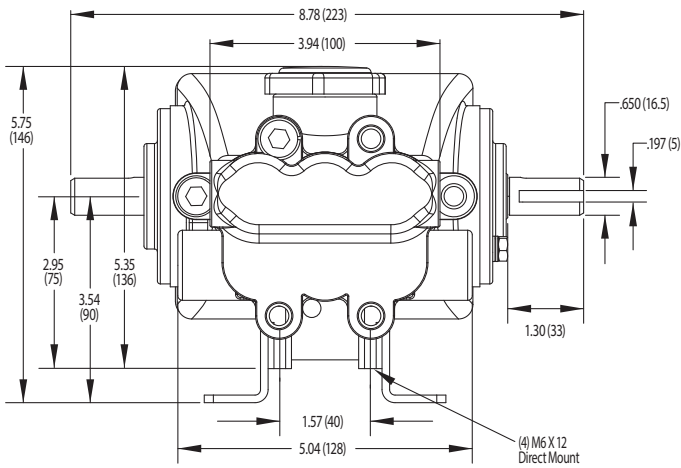
ITEM	PART NUMBER	MATL	PART NUMBER	MATL	PART NUMBER	MATL	DESCRIPTION	QTY
	<b>230</b>		<b>240</b>		<b>270</b>			
188	126515	STCP R	126515	STCP R	126515	STCP R	Screw, HSH (M10x55)	4
250	25130	STCP	25130	STCP	25130	STCP	Protector, Shaft	1
260	30612	STZP	30612	STZP	30612	STZP	Mount, Rail, Assy	1
265	30651	—	30651	—	30651	—	Mount, Assy (Incls: 30612, 30246, 25130)	1
270	30246	STL	30246	STL	30246	STL	Assy, Pulley & Key (Incls: 30032, 30047) [See Tech Bulletin 003]	1
283	34334	—	34334	—	34334	—	Kit, Oil Drain	1
299	814611	BB	814611	BB	814611	BB	Head, Complete w/NBR Seals and O-Rings	1
300	30914	NBR	30914	NBR	30914	NBR	Kit, Seal (Incls: 97,106,125,143,154,155,159,165) <b>Standard</b>	1
	33609	FPM	33609	FPM	33609	FPM	Kit, Seal (Incls: 97,106,125,143,154,155,159,165) <b>.0110</b>	1
	◆ 33914	EPDM*	◆ 33914	EPDM*	◆ 33914	EPDM*	Kit, Seal (Incls: 97,106,125,143,154,155,159,165) <b>.0220</b>	1
	33915	HT	33915	HT	33915	HT	Kit, Seal (Incls: 97,106,125,143,154,155,159,165) Hi-Temp <b>.3000</b>	1
	30735	STHT	30735	STHT	30735	STHT	Kit, Seal (Incls: 97,106,125,143,154,155,159,165) Hi-Temp <b>.3400</b>	1
	76660	IPFE	76660	IPFE	76660	IPFE	Kit, Seal (Incls: 97,106,125,143,154,155,159,165) Hi-Temp <b>.3400</b>	1
310	30915	NBR	30915	NBR	30915	NBR	Kit, Valve (Incls: 143,154,159,164,165,166,167,168) <b>Standard, .3000, .3400</b>	1
	31214	FPM	31214	FPM	31214	FPM	Kit, Valve (Incls: 143,154,159,164,165,166,167,168) <b>.0110</b>	1
	◆ 31215	EPDM	◆ 31215	EPDM	◆ 31215	EPDM	Kit, Valve (Incls: 143,154,159,164,165,166,167,168) <b>.0220</b>	1
	76690	IPFE	76690	IPFE	76690	IPFE	Kit, Valve (Incls: 143,154,159,164,165,166,167,168) <b>.3400</b>	1
—	—	—	—	—	—	—	BD Motors (See Individual Data Sheet)	—
—	—	—	—	—	—	—	Gearbox (See Individual Data Sheet)	—
—	6107	—	6107	—	6107	—	Oil, Bottle (21 oz.) ISO 68 Hydraulic (Fill to specified crankcase capacity prior to start-up)	1

**Bold print part numbers are unique to a particular pump model. Italics are optional items. [ ]** Date of latest production change. **◆** Silicone oil/grease required.

R Components comply with RoHS Directive. \*Review material codes for individual items (HT generally may be used as alternate).

See Tech Bulletins 002, 003, 024, 035, 036, 043, 067, 073, 074, 083 and 104 for additional information.

MATERIAL CODES (Not Part of Part Number): AL=Aluminum ABS=ABS Plastic BB=Brass BBPC=Brass/Chrome Plated CC=Ceramic CM=Chrome-Moly CU=Copper EPDM=Ethylene Propylene Diene Monomer FCM=Forged Chrome-moly FPM=Fluorocarbon HT=Hi-Temp (EPDM Alternative) IPFE=Perfluoroelastomer NBR=Medium Nitrile (Buna-N) PE=Polyethylene PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride S=304SS SSZZ=316SS/Zamak SFTA=Special Blend PTFE SNG=Special Blend (Buna) ST4=Special PTFE 4 STCP=Steel/Chrome Plated STHT=Special PTFE High Temp STL=Steel STZ=Special PTFE 2 STZP=Steel/Zinc Plated TNM=Special High Strength



Models 230, 240, 270

**⚠ CAUTIONS AND WARNINGS**

All High Pressure Systems require a primary pressure regulating device (i.e. regulator, unloader) and a secondary pressure relief device (i.e. pop-off valve, relief valve). Failure to install such relief devices could result in personal injury or damage to pump or property. Cat Pumps does not assume any liability or responsibility for the operation of a customer's high pressure system.

Read all CAUTIONS and WARNINGS before commencing service or operation of any high pressure system. The CAUTIONS and WARNINGS are included in each service manual and with each Accessory Data sheet. CAUTIONS and WARNINGS can also be viewed online at [www.catpumps.com/cautions-warnings](http://www.catpumps.com/cautions-warnings) or can be requested directly from Cat Pumps.



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